IN THE CLAIMS

1. (currently amended) A method of equalizing output signals from a plurality of signal paths, **each signal path having a microphone,** the method comprising **the steps** of:

(a) applying a predictable noise to each signal path to generate an output noise;

~~(a)~~ **(b)** identifying a transfer function of ~~the~~ **each** signal path **based on the corresponding output noise** ~~including a microphone for each of the signal paths~~;

~~(b)~~ **(c)** based on a single selected function, determining a filtering function for each signal path such that **[[a]] the** product of the transfer function and the filtering function is the selected function; and

~~(c)~~ **(d)** applying the filtering function **for each signal path** to ~~the corresponding signal path~~ **the corresponding transfer function to generate the selected function,** ~~thereby correcting the transfer function of the signal path to the selected function, whereby~~ **such that** the output signals from the signal paths are substantially equal with respect to phase or phase and magnitude.

2. (currently amended) A method according to claim 1, wherein ~~said~~ **the** selected function is the transfer function for one of ~~said plurality of~~ **the** signal paths.

3. (currently amended) A method according to claim 1, wherein **the selected function is a common factor, and** ~~said~~ **the** filtering function is determined such that **[[a]] the** product of the transfer function and the filtering function is ~~a selected~~ **the** common factor.

4. (currently amended) A method according to claim 1, wherein ~~said~~ **the** step of applying ~~each~~ **the** filtering function comprises steps of:

(a) providing a filter to ~~the~~ **each** signal path; and

(b) applying the filtering function **for each signal path** to the **corresponding** filter ~~of its corresponding signal path, thereby equalizing output signals from the filter of the signal paths~~.

5. (currently amended) A method according to claim 1, wherein**:** ~~said step of identifying a transfer function comprises steps of:~~

the step of applying a predictable noise comprises, for each signal path, steps of:

(a) providing a **first predictable noise** sample signal to the signal path to produce ~~a sample~~ **the** output **noise** ~~signal through the signal path~~; and

(b) providing a second predictable noise sample signal, the second predictable noise sample signal having a property corresponding to the first predictable noise sample signal,

the step of identifying a transfer function comprises, for each signal path, a step of:

~~(b)~~ **(c)** processing the ~~sample signal~~ **output noise** and the **second predictable noise** sample ~~output~~ signal to identify the transfer function of its corresponding signal path.

6. (canceled)

7. (currently amended) A method according to claim 1, ~~wherein said signal path comprises the microphone for converting a sound signal to an electrical analog signal; and an analog-to-digital converter coupled to the microphone for converting the electrical analog signal into a digital signal,~~ wherein**:** ~~said step of identifying a transfer function comprises steps of:~~

the step of applying a predictable noise comprises, for each signal path, steps of:

(a) acoustically providing a **first predictable** noise sample to the microphone with a propagation time delay to ~~produce~~ **generate** ~~a first~~ **the** output **noise** ~~processed through the signal path~~; **and**

(b) providing a ~~second output~~ **noise signal** corresponding to the **first predictable** noise sample with the propagation time delay[[;]]**,** ~~and~~

the step of identifying a transfer function comprises, for each signal path, a step of:

(c) processing the ~~first~~ output **noise** and the ~~second output~~ **noise signal** to identify the transfer function of its corresponding signal path.

8. (currently amended) A method according to claim 7, wherein ~~said step of providing the noise sample comprises steps of:~~ **the step of providing a first predictable noise sample comprises steps of:**

(a) ~~providing~~ generating a first **predictable** digital noise signal, and

(b) converting the first **predictable** digital noise signal into ~~said~~ **the first predictable** noise sample**,**

the step of providing a noise signal comprises steps of:

(c) generating a second predictable digital noise signal, and

(d) converting the second predictable digital noise signal into the noise signal.

9. (currently amended) A method according to claim 8, wherein ~~said step of providing a second output comprises steps of:~~ **the step of converting the second predictable digital noise signal comprises steps of:**

(a) ~~providing a second digital noise signal,~~ **synchronizing** the second **predictable** digital noise signal ~~being synchronized~~ with ~~said~~ **the** first **predictable** digital noise signal ~~and having properties corresponding to said first digital noise signal~~;

(b) delaying the second **predictable** digital noise signal by same amount of time as ~~said~~ **the** propagation delay time; and

(c) compensating **the second predictable digital noise signal for** the conversion factor of ~~said~~ **the** first **predictable** digital noise signal ~~into said noise sample~~.

10. (currently amended) A method according to claim 6, wherein **for each signal path,** ~~said~~ **the** transfer function of the signal path is a transfer function of ~~said~~ **the** microphone.

11. (currently amended) A method according to claim 7, wherein ~~said~~ **the** propagation delay time ~~(T)~~ is selected to be integer multiple of ~~said~~ **the first predictable** noise sample.

12. (currently amended) A method according to claim 8, wherein **the step of generating a first predictable digital noise signal includes a step of utilizing** ~~said first digital noise signal is provided by~~ a maximum length sequence generator **to generate the first predictable digital noise signal**.

13. (currently amended) A method according to claim [[9]] **8**, wherein **the step of generating a second predictable digital noise signal includes a step of utilizing** ~~said second digital noise signal is provided by~~ a maximum length sequence generator **to generate the second predictable digital noise signal**.

14. (currently amended) A method according to claim [[9]] **8**, wherein **each of** ~~said~~ **the** first **predictable digital noise signal** and **the** second **predictable digital** noise signal comprise**s** a white noise signal.

15. (currently amended) A method according to claim [[9]] **8**, wherein **each of** ~~said~~ **the** first **predictable digital noise signal** and **the** second **predictable digital** noise signal comprise**s** a random noise signal.

16. (currently amended) An apparatus for equalizing output signals from a plurality of signal paths**, each signal path having a microphone**, the apparatus comprising:

(a) a module for applying a predictable noise to each signal path to generate an

output noise;

~~(a) means~~ (b) a module for identifying a transfer function of ~~the~~ each signal path ~~including a microphone~~ based on the corresponding output noise ~~for each of the signal paths~~;

~~(b) means~~ (c) a module for determining, based on a single selected function, a filtering function for each signal path such that [[a]] the product of the transfer function and the filtering function is the selected function; and

~~(c) means~~ (d) a module for applying the filtering function for each signal path to the corresponding ~~signal path~~ transfer function~~, thereby correcting the transfer function of the signal path to the selected function~~ to generate the selected function~~, whereby~~ such that the output signals from the signal paths are substantially equal with respect to phase or magnitude and phase.

17. (currently amended) An apparatus according to claim 16, wherein ~~said~~ the selected function is the transfer function for one of the signal paths.

18. (currently amended) An apparatus according to claim 16, wherein the selected function is a common factor, and ~~said~~ the filtering function is determined such that [[a]] the product of the transfer function and the filtering function is ~~a selected~~ the common factor.

19. (currently amended) An apparatus according to claim 16, wherein ~~said filtering function applying means~~ the module for applying the filtering function comprises:

(a) a filter provided to ~~the~~ each signal path; and

(b) ~~means~~ a module for ~~applying~~ loading the filtering function for each signal path to the corresponding filter ~~of its corresponding signal path, thereby equalizing output signals from the filter of the signal paths~~.

20. (currently amended) An apparatus according to claim 16, wherein: ~~said transfer function identifying means comprises:~~

the module for applying a predictable noise comprises, for each signal path:

(a) ~~means~~ a noise generator for providing a first predictable noise sample signal to the signal path to produce [[a]] the ~~sample~~ output noise ~~signal through the signal path~~[[;]] and providing a second predictable noise sample signal, the second predictable noise sample signal having a property corresponding to the first predictable noise sample signal,

the identifying module comprises, for each signal path:

(b) ~~means~~ **a module** for processing the ~~sample signal~~ **output noise** and the **second predictable noise** sample ~~output~~ signal to identify the transfer function of its corresponding signal path.

21. (currently amended) An apparatus according to claim **[[16]] 20**, wherein ~~said signal path comprises~~ the microphone **is capable of [[for]]** converting a sound signal to an electrical analog signal**[[;]],** and **each signal path further includes** an analog-to-digital converter coupled to the microphone for converting the electrical analog signal into a digital signal~~, wherein said transfer function identifying means comprises:~~

~~(a) means for providing a noise sample to the microphone to produce a sample output signal through the signal path; and~~

~~(b) means for processing the noise sample and the sample output signal to identify the transfer function of its corresponding signal path~~.

22. (currently amended) An apparatus according to claim 16, wherein ~~said signal path comprises~~ the microphone **is capable of [[for]]** converting a sound signal to an electrical analog signal**[[;]],** and **each signal path further includes** an analog-to-digital converter coupled to the microphone for converting the electrical analog signal into a digital signal, wherein**:** ~~said transfer function identifying means comprises:~~

the module for applying a predictable noise comprises, for each signal path:

(a) ~~means~~ **a module** for acoustically providing a **first predictable** noise sample to the microphone with a propagation time delay to produce ~~a first~~ **the** output **noise** ~~processed through the signal path~~**; and**

(b) ~~means~~ **a module** for providing a ~~second output~~ **noise signal** corresponding to the **first predictable** noise sample with the propagation time delay**[[;]],** ~~and~~

the module for identifying a filtering function comprises, for each signal path:

(c) ~~means~~ **a module** for processing the ~~first~~ output **noise** and the ~~second output~~ **noise signal** to identify the transfer function of its corresponding signal path.

23. (currently amended) An apparatus according to claim 22, wherein ~~said noise sample providing means~~ **the module for providing a first predictable noise sample** comprises:

(a) a first noise generator for generating a first **predictable digital** noise signal; and

(b) ~~means~~ **a first converter** for converting the first **predictable** digital noise signal into

~~said~~ **the first predictable** noise sample,

the module for providing a noise signal comprises:

(c) a module for providing a second predictable digital noise signal; and

(d) a second converter for converting the second predictable digital noise signal into the noise signal.

24. (currently amended) An apparatus according to claim 23, wherein ~~said a second output providing means~~ **the second converter** comprises:

(a) ~~a second noise generator for generating a second digital noise signal,~~ **a synthesizer for synthesizing** the second **predictable** digital noise signal ~~being synchronized~~ with ~~said~~ **the** first **predictable** digital noise signal ~~and having properties corresponding to said first digital noise signal~~;

(b) ~~means~~ **a module** for delaying the second **predictable** digital noise signal by same amount of time as ~~said~~ **the** propagation delay time; and

(c) ~~means~~ **a module** for compensating **the second predictable digital noise signal for** the conversion factor of ~~said~~ **the** first **predictable** digital noise signal ~~into said noise sample~~.

25. (currently amended) An apparatus according to claim 23, wherein ~~said first digital noise signal providing means~~ **the first noise generator** [[is]] **includes** a maximum length sequence generator.

26. (currently amended) An apparatus according to claim 23, wherein ~~said converting means~~ **the first converter** includes**:**

a digital-to-analog converter **for converting the first predictable digital noise signal into an analog noise signal,** and

a loud speaker **for providing the analog noise signal to the microphone**.

27. (currently amended) An apparatus according to claim [[24]] **23**, wherein ~~said second digital noise providing means includes~~ **the second predictable digital noise signal is generated by** a maximum length sequence generator.

28. (currently amended) An apparatus according to claim 21, wherein for each signal path, ~~said~~ **the** transfer function of the signal path is a transfer function of ~~said~~ **the** microphone.

29. (currently amended) An apparatus according to claim 22, wherein ~~said~~ **the** propagation delay time is selected to be integer multiple of ~~said~~ **the** first **predictable** noise sample.

30. (currently amended) An apparatus according to claim [[24]] **23**, wherein ~~said~~ **each of the**

first **predictable noise signal** and **the** second **predictable** digital noise signal[[s]] ~~are~~ **comprises** a white noise signal.

31. (currently amended) An apparatus according to claim **[[24]] 23**, wherein ~~said~~ **each of the** first **predictable noise signal** and **the** second **predictable** digital noise signal[[s]] ~~are~~ **comprises** a random noise signal.

32. (currently amended) An apparatus according to claim **[[24]] 23**, wherein ~~said~~ **the** first **predictable digital noise signal** and **the** second **predictable** digital noise signal are ~~provided~~ **generated** by ~~a single source~~ **the first noise generator**.

33. (currently amended) A listening device **comprising:**

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized using [[a]] **the** method according to claim 1.

34. (currently amended) A hearing aid **comprising:**

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized using [[a]] **the** method according to claim 1.

35. (currently amended) A headset **comprising:**

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized using [[a]] **the** method according to claim 1.

36. (currently amended) A listening device comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized by ~~an~~ **the** apparatus according to claim 16.

37. (currently amended) A hearing aid comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized by ~~an~~ **the** apparatus according to claim 16.

38. (currently amended) A headset comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, outputs from the signal paths being equalized by ~~an~~ **the** apparatus

according to claim 16.

39. (currently amended) A listening device comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, and

a signal equalization filter **provided for each signal path**, wherein the function of the **signal equalization** filter is determined by ~~an~~ **the** method according to claim 1 **and is loaded to the signal equalization filter**.

40. (currently amended) A hearing aid comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, and

a signal equalization filter **provided for each signal path**, wherein the function of the **signal equalization** filter is determined by ~~an~~ **the** method according to claim 1 **and is loaded to the signal equalization filter**.

41. (currently amended) A headset comprising:

a plurality of signal paths for transmitting sound signals to a user, each signal path having a microphone, and

a signal equalization filter **provided for each signal path**, wherein the function of the **signal equalization** filter is determined by ~~an~~ **the** method according to claim 1 **and is loaded to the signal equalization filter**.

42. (currently amended) A method of ~~correcting transfer functions of~~ **providing sound signals to a user through a system including** a plurality of signal paths, **each signal path having a microphone,** the method comprising steps of:

preparing a filtering function for each signal path, including the steps of:

(a) applying a predictable noise to each signal path to generate an output noise;

~~(a)~~ **(b)** identifying a transfer function of ~~the~~ **each** signal path ~~including a microphone~~ **based on the corresponding output noise** ~~for each of the signal paths~~; **and**

~~(b)~~ **(c)** determining, based on a single selected function, **[[a]]** **the** filtering function for each signal path such that **[[a]]** **the** product of the transfer function and the filtering function is the selected function**[[;]]**, ~~and~~

operating the system, including the steps of:

~~(c)~~ (d) applying the filtering function for each signal path to the corresponding ~~signal path~~ transfer function to generate the selected function, and

(e) providing the sound signals to the signal paths, whereby the ~~outputs of~~ sound signals output from the signal paths are substantially equal with respect to phase or phase and magnitude.

43. (currently amended) ~~An apparatus for equalizing output signals from a plurality of signal paths, the apparatus~~ A sound system comprising:

a system for providing sound signals to a user, including:

(a) a plurality of signal paths for transmitting the sound signals to the user, each signal path including a microphone; and

(b) a filter provided to each signal path,

an equalizing module, including:

(c) a circuit for applying a predictable noise to each signal path to generate an output noise;

~~(a)~~ (d) an identification circuit for identifying a transfer function of ~~the~~ each signal path ~~including a microphone~~ based on the corresponding output noise ~~for each of the signal paths~~; and

~~(b)~~ (e) a determination circuit for determining, based on a single selected function, a filtering function for each signal path such that [[a]] the product of the transfer function and the filtering function is the selected function[[;]], ~~and~~

~~(c) a filter for applying~~ when the signal paths transfer the sound signals to the user, the filtering function being applied to the corresponding ~~signal path~~ filter to generate the selected function ~~thereby correcting the transfer function of the signal path to the selected function~~, whereby the ~~output~~ sound signals from ~~the signal paths~~ the sound providing system are substantially equal with respect to phase or phase and magnitude.

44. (new) A sound system according to claim 43, wherein the selected function is the transfer function for one of the signal paths.

45. (new) A sound system according to claim 43, wherein the selected function is a common factor, and the filtering function is determined such that the product of the transfer function and the filtering function is the common factor.

46. (new) A sound system according to claim 43, wherein:

the circuit for applying a predictable noise signal comprises, for each signal path:

(a) a module for providing a first predictable noise signal to the microphone to produce the output noise; and

(b) a module for providing a second predictable noise signal, the second predictable noise signal having a property corresponding to the first predictable noise signal,

the identifying circuit comprises, for each signal path:

(c) a module for processing the output signal and the second predictable noise signal.

47. (new) A sound system according to claim 46, wherein the module for providing a first predictable noise signal includes a maximum length sequence generator for generating the first predictable noise signal.

48. (new) A sound system according to claim 47, wherein the maximum length sequence generator generates the second predictable noise signal.

49. (new) An apparatus according to claim 16, wherein the module for identifying a transfer function performs an Auto Regressive Moving Average (ARMA) to estimate the transfer function.

50. (new) A sound system according to claim 43, wherein the identifying circuit performs an Auto Regressive Moving Average (ARMA) to estimate the transfer function.